

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PCT-171	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/JP 03/07258	International filing date (day/month/year) 09/06/2003	(Earliest) Priority Date (day/month/year) 05/07/2002
Applicant  NISSAN MOTOR CO., LTD.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1a

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP 03/07258

## Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

A fuel cell power plant which uses water for operation comprising an antifreeze mechanism (15,16) is disclosed. Water contained in cathode effluent from a cathode (1B) of the fuel cellpower plant is condensed by a condenser (8) and recovered to a water tank(10). Water in the water tank (10) is supplied from a pump (17) to a humidifier(4) which humidifies hydrogen-rich gas supplied to an anode (1A) via a waterpassage (9B). When the power plant stops operating, a controller (30) firstrecovers water in the water passage (9B) to the water tank (10). Also, the freezing probability of the water passage (9B) is determined from the temperature detected by an outside air temperature sensor (31), and a wait time is set according to the freezing probability. By opening a drain valve (15) and draining residual water in the water passage (9B) after the wait time has elapsed, freezing of the water passage (9B) can be prevented with a minimum water drainage amount.

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International Application No

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01M8/02 H01M8/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 6 242 119 B1 (ISOBE SHOJI ET AL) 5 June 2001 (2001-06-05) figures 1,2 column 1, line 6 - line 13 column 1, line 34 - line 42 column 1, line 59 - column 2, line 9 column 2, line 15 - line 17 column 2, line 42 - column 3, line 8 column 3, line 25 - line 45 column 4, line 21 - line 55 column 5, line 4 - line 10 column 5, line 27 - line 30 claims 1,2,4,5,7-10 ----- -/--	1-3, 5-10,15 11

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

26 October 2004

Date of mailing of the international search report

03/11/2004

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	US 6 479 177 B1 (ATBI ABDERRAHMANE ET AL) 12 November 2002 (2002-11-12) figure 3 column 1, line 24 - line 27 column 2, line 58 - line 65 column 3, line 5 - line 12 column 3, line 40 - column 4, line 46 column 6, line 11 - line 25 column 6, line 30 - line 34 column 8, line 39 - line 53 claims 1-3,10	1-10, 12-15
X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 13, 30 November 1999 (1999-11-30) & JP 11 214025 A (SANYO ELECTRIC CO LTD), 6 August 1999 (1999-08-06)	1-3,5-9, 12-15
A	abstract	11
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) & JP 10 223249 A (TOYOTA MOTOR CORP), 21 August 1998 (1998-08-21) cited in the application	1-10, 12-15
A	abstract	11
X	US 6 248 462 B1 (BONVILLE LEONARD J), 19 June 2001 (2001-06-19) figures 3a,3b column 1, line 9 - line 11 column 1, line 25 - line 28 column 2, line 45 - line 57 column 2, line 65 - column 3, line 24 column 4, line 64 - column 5, line 11 column 5, line 44 - line 49 column 6, line 20 - line 23 column 6, line 32 - line 36 column 7, line 31 - line 38 column 7, line 47 - line 49 column 7, line 58 - line 66 column 8, line 4 - line 6 column 8, line 20 - column 9, line 12 column 9, line 25 - line 38 column 10, line 33 - line 36 claim 1	1-8,12, 15 9
A		
P,X	US 2003/039870 A1 (BUSENBENDER ILONA), 27 February 2003 (2003-02-27) figure 6 paragraph '0001! paragraph '0004! - paragraph '0006! paragraph '0011! - paragraph '0012! paragraph '0014! paragraph '0032! - paragraph '0033! claims 1-7,10,33	1-10, 12-15

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
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